DELPHI

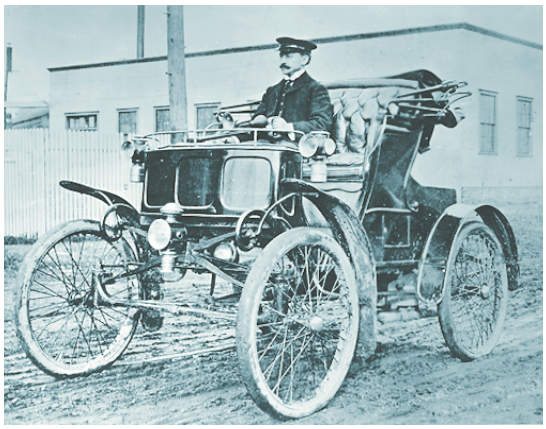
Connection Systems

Ignition Products Catalog

Driving Tomorrow's Technology

Ignition Products

Necessity Nudges Invention



The founders of the Packard Electric Company, James Ward and William Doud Packard, were well known for insisting on the best in materials, designs and workmanship for their product, the Packard Automobile. In 1898, this passion guided the brothers to develop their own ignition cable in order to overcome performance and availability problems with the commonly used, imported cables of that time.

By 1901, the Packard Electric Company became the first U.S. producer of "high tension" automotive cable with dramatically improved performance. This product not only solved the brothers' ignition problems, but also became an industry standard. They called their insulated spark plug cable "Packard Lac-Kard Cable".

What started in 1898 as a solution to a cable problem resulted in the company known today as Delphi Packard Electric Systems, the world's leading supplier of electrical and electronic distribution systems and ignition wiring products.

Delphi Packard Electric Systems' rich history – spanning more than 100 years – highlights its commitment to excellence, world-class quality and outstanding value in the automotive business. Our state-of-the-art operations supply electrical and electronic distribution systems for more than 14 million vehicles each year.

Today, Delphi has approximately 206,000 employees and operates 198 wholly owned manufacturing sites, 44 joint ventures, 53 customer centers and sales offices, and 31 technical centers in 43 countries.

Delphi Packard Electric Systems'

Ignition Milestones

1898 Started ignition cable development.

1901 Produced first ignition cable in the U.S.

1946 Developed ignition cable with extruded-cured-synthetic rubber insulation and jacket.

1948 Developed first radio suppression conductor.
Developed staple terminations.
Used barrel terminals.

1950 Used rubber spark plug boots.

1954 Introduced inner-braid cable construction.

1969 Developed strip and fold termination technique.
Used EPDM insulation, fiberglass conductor and silicone spark plug boots.

1973 Introduced High Energy Ignition (HEI).

1975 Developed "Delcore" aramid fiber conductor.

1984 Developed heat shields for spark plug boots and high-temperature silicone spark plug boot material.

1985 Developed Composite High Temperature (CHT) core.

1986 Produced Coil-At-Plug spark plug boot assembly.

1990 Developed and produced components for the Angular Based Ignition Timing System (ABITS).

1991 Produced wire-wound cable.

1992 Produced low resistance CHT cable.
Introduced new heat shield.

1993 Patented improved spark plug boot release agent/dielectric sealing grease.

1995 Produced high tear silicone cable and low resistance inductive core.

1996 Developed new products for On Board Diagnostics systems (OBD2).

1997 Produced 5mm cable.

1998 Introduced secondary lock features for boot and nipple connections (BPA - Boot Position Assurance and NPA - Nipple Position Assurance).

1999 Developed terminals with welded seams and improved snap ring designs for better tactile feel and retention.

2000 Introduced low capacitance cable.

2001 Integrated noise suppression elements for Coil-At-Plug assemblies.

Table of Contents

State-of-the-art manufacturing and assembly techniques result in world-class quality.

The Delphi Packard Electric Systems' Ignition Group supplies high quality ignition products that meet diverse application needs for Original Equipment Manufacturers (OEM) and Delphi Aftermarket customers. Delphi's ignition cables and components exceed stringent product requirements, such as:

- 40,000 volt systems
- Temperature ranges from -40°C to 260°C
- Radio frequency interference suppression
- 160,000+ km product life
- Resistance to ozone, corona, and fluids

When combined into assemblies, the ignition products function to provide:

- Sound mechanical connections to spark plugs, distributors, and coils
- Protection from weather, elements, and temperature
- A direct electrical path between distributors/coils and spark plugs for conventional systems and the latest technologies of Coil-Near-Plug and Coil-At-Plug

A Complete Line of Ignition Products

Delphi Packard Electric Systems supplies five categories of ignition products. Many combinations are available to suit different applications.

Ignition Cable

Ignition cable transfers high voltage energy from distributors/coils to spark plugs. It consists of:

- Core – conductive center that can be metallic or non-metallic
- Insulation – non-conductive materials that can be organic or inorganic
- Inner braid – serves as a strength member to enhance mechanical properties for terminal retention and overall cable durability
- Outer jacket – provides protection from engine fluids, temperature extremes, and abrasion

Ignition Terminals

Ignition terminals provide the mechanical and electrical connections between the cable core and the spark plugs, distributors, or coils. Two methods of terminal application are used:

- Staple – a "U" shaped metallic piece, inserted into the core, provides a contact point on the outer surface of the cable. Crimping the terminal over the staple and cable completes the connection to the core.
- Strip and Fold – removes insulation to expose a short length of core which is "folded" back over the outer jacket. The crimping of the terminal traps the core between the terminal and the cable.

Spark Plug Boots and Distributor/Coil Nipples

Spark plug boots and distributor/coil nipples provide environmental sealing and electrical insulation of the ignition lead connections to spark plugs, distributors, and coils. These parts must:

- Insulate the connections
- Resist dielectric puncture
- Seal against moisture and fluids present in the engine compartment
- Perform at engine compartment temperature extremes
- Be removed easily, without damage, during service

Heat Shields

Heat shields are metallic/ceramic outer shields that provide additional temperature protection for spark plug boots.

Clips, Channels, Conduits and Other Fasteners

Clips, channels, conduits and other fasteners maintain harness routings to keep assemblies away from moving parts, sources of heat, and areas of potential abrasion.

Ignition Cable

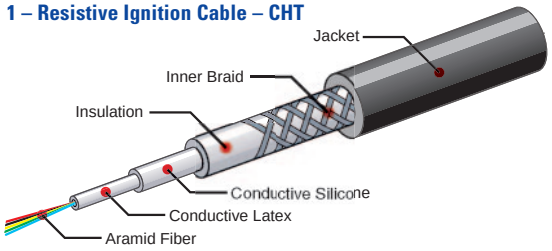
Delphi Packard Electric Systems produces many cable types that meet the increased energy needs of leaner burning engines, withstand high operating temperatures, and meet strict suppression requirements for electro-magnetic interference (EMI).

The core can be made with metallic or non-metallic materials. Specific core materials available are copper, stainless steel, Delcore, Composite High Temperature (CHT), and wire-wound. These choices meet a wide range of customer specifications for resistance, reactance, and capacitance.

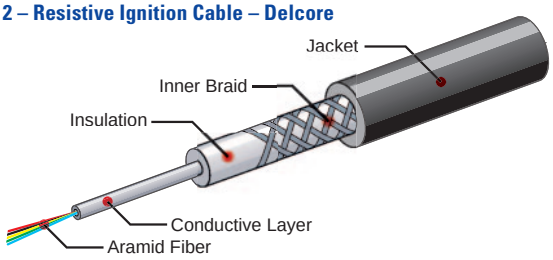
The insulating portion of the cable can be made with organic or inorganic materials. The organic choices are Chlorinated Polyethylene Elastomer (CPE) and Ethylene Polypropylene Diene Monomer (EPDM). The inorganic option is Silicone.

Delphi ignition cables are made with multiple layers of non-conductive materials over the selected core in order to optimize the desired properties of the finished cable (dielectric strength, mechanical strength, flexibility, and temperature resistance).

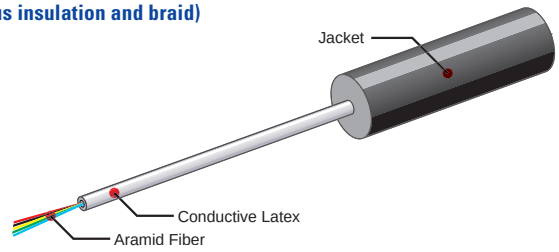
TYPE 1 – Resistive Ignition Cable – CHT



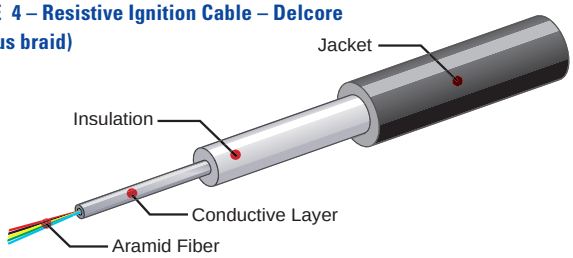
TYPE 2 – Resistive Ignition Cable – Delcore



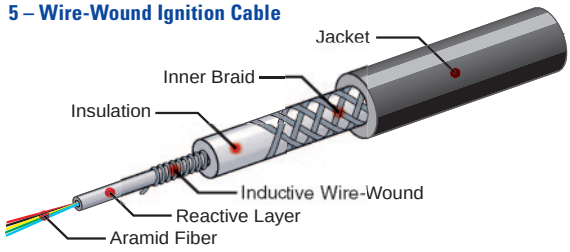
TYPE 3 – Resistive Ignition Cable – Delcore (minus insulation and braid)



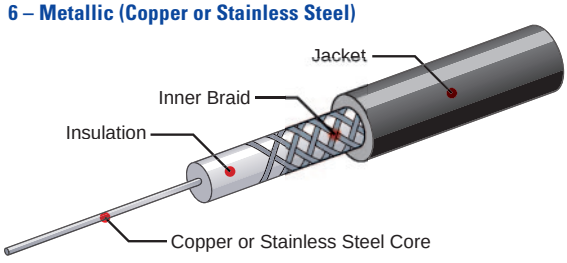
TYPE 4 – Resistive Ignition Cable – Delcore (minus braid)



TYPE 5 – Wire-Wound Ignition Cable



TYPE 6 – Metallic (Copper or Stainless Steel)



Temperature/Material Range

Continuous Operating Temperature	Terminals	Boot Material	Cable Construction			SAE J-2031	
			Jacket	Insulation	Conductor	Class	Type
90°C to 120°C	Phos. Bronze Stainless	EPDM or Silicone	CPE EPDM	EPDM	Delcore, Copper or Stainless	A/B/C	1 or 2
120°C to 180°C	Stainless	Silicone	Silicone	EPDM	Delcore or CHT	C/D/E	3
232°C	Stainless	High Temp. Silicone	Silicone	Silicone	CHT or Wire-wound Core	D/E/F	3 or 4

Cable

Cable Size (mm)	Conductor	Insulation	Jacket	Type
8.0	CHT	EPDM	Silicone	1
8.0	CHT	Silicone	Silicone	1
7.0	CHT	CPE	EPDM	1
7.0	CHT	EPDM	EPDM	1
7.0	CHT	EPDM	Silicone	1
7.0	CHT	Silicone	Silicone	1
8.0	Delcore	EPDM	EPDM	2
7.0	Delcore	EPDM	CPE	2
7.0	Delcore	EPDM	EPDM	2
7.0	Delcore	EPDM	Silicone	2
8.0	Delcore	–	EPDM	3
7.0	Delcore	–	EPDM	3
8.0	Delcore	EPDM	Silicone	4
7.0	Delcore	EPDM	EPDM	4
8.0	Inductive Wire-Wound	EPDM	Silicone	5
8.0	Inductive Wire-Wound	Silicone	Silicone	5
7.0	Inductive Wire-Wound	EPDM	CPE	5
7.0	Inductive Wire-Wound	EPDM	Silicone	5
7.0	Inductive Wire-Wound	Silicone	Silicone	5
5.0	Inductive Wire-Wound	EPDM	Silicone	5
5.0	Inductive Wire-Wound	Silicone	Silicone	5
8.0	Tin	Silicone	Silicone	6
7.0	Stainless Steel	Silicone	Silicone	6
7.0	Tin	EPDM	CPE	6
7.0	Tin	EPDM	EPDM	6
7.0	Tin	EPDM	Silicone	6
7.0	Tin	Silicone	Silicone	6

Standard Packs:

8.0mm = 8,000 ft. 7.0mm = 10,000 ft. 5.0mm = 20,000 ft.

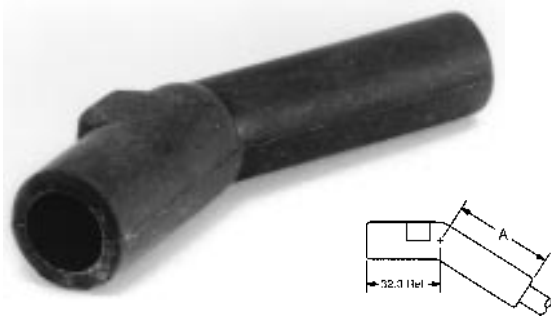
Jacket Colors

- Custom colors may be available upon request.
- CPE is available only in black.
- Jacket printed to customer specifications in white, yellow or black.

Spark Plug Boots — HEI

TYPE 1

TYPE 2



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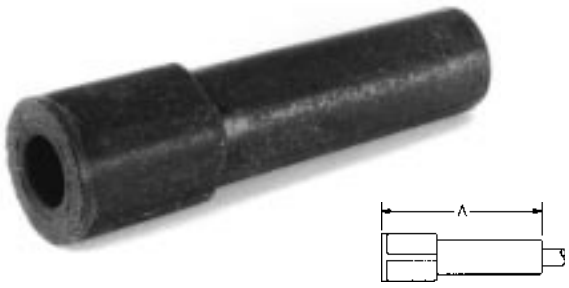

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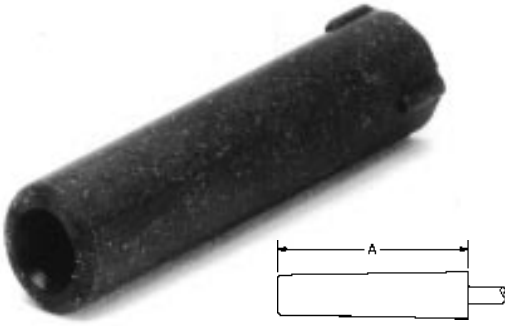

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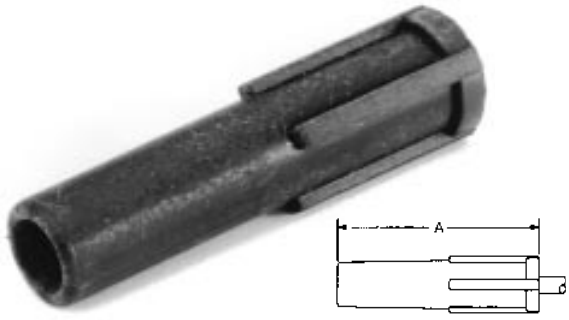


TYPE 6

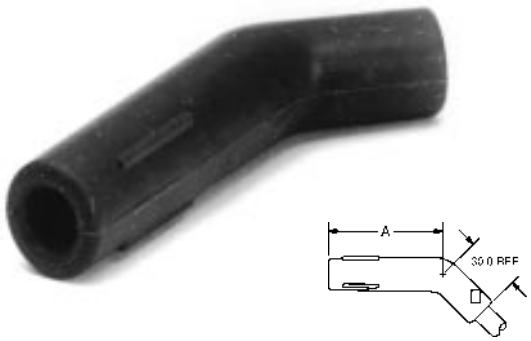
TYPE 7

TYPE 8

Note: Reference dimensions are in millimeters.

Spark Plug Boots — HEI

TYPE 9



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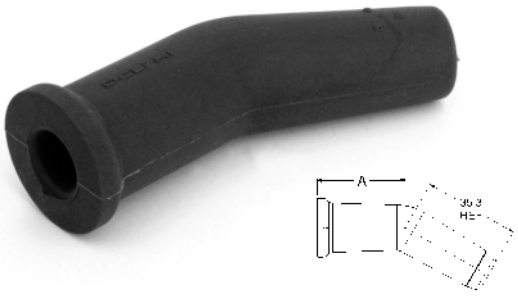

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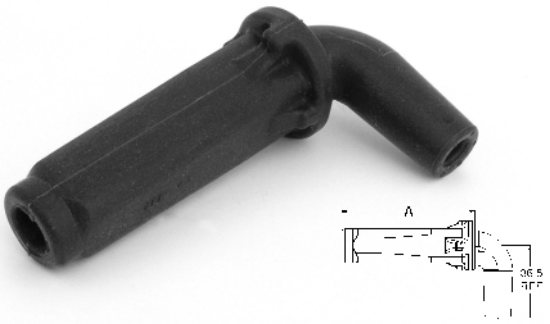

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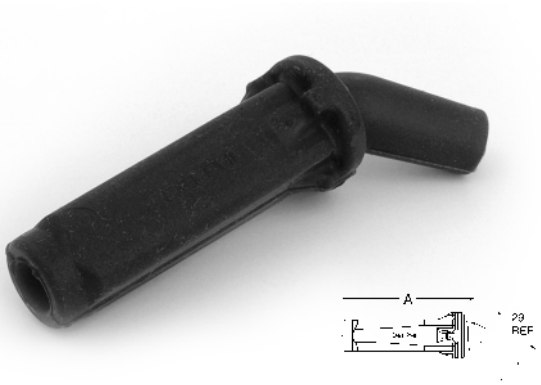
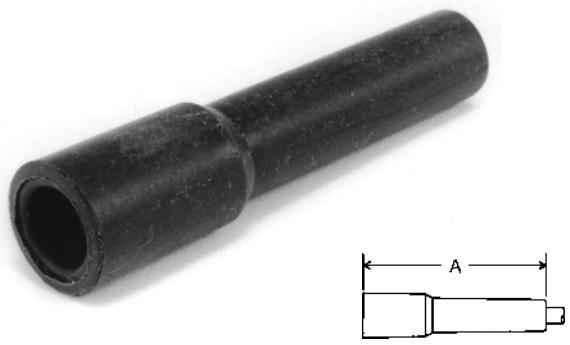


Spark Plug Boots – HEI

Part Number	Type	Cable Size (mm)	Material	Color	Mating End ID (mm)	Dim. A (mm)	Cont. Op. Temp.(°C)	Peak Op. Temp.(°C)
1203 3831	1	8.0	Silicone	Black	8.64	36.90	180	210
1204 0782	1	7.0	Silicone	Black	8.64	36.90	180	210
1206 5779	1	7.0	Silicone	Brown	8.64	36.90	220	250
1216 3666	1	7.0	High Temp. Sil.	Brown	9.25	36.90	220	250
1203 4559	2	7.0	Silicone	Black	9.10	44.20	180	210
1213 2297	2	7.0	High Temp. Sil.	Black	9.10	44.20	220	250
1203 3829	3	8.0	Silicone	Black	9.14	66.50	180	210
1202 0929	4	7.0	Silicone	Black	9.30	79.20	180	210
1204 7595	4	7.0	High Temp. Sil.	Brown	9.30	79.30	220	250
1211 0939	5	7.0	Silicone	Black	9.10	74.80	180	210
1204 0990	6	8.0	High Temp. Sil.	Brown	9.10	68.70	220	250
1206 5732	6	8.0	High Temp. Sil.	Brown	9.10	92.00	220	250
1205 2869	6	7.0	High Temp. Sil.	Brown	9.25	68.70	220	250
1213 2264	6	7.0	Silicone	Black	9.25	97.00	180	210
1204 7598	7	8.0	High Temp. Sil.	Brown	9.30	111.70	220	250
1206 5735	7	8.0	High Temp. Sil.	Brown	9.10	94.75	220	250
1209 2940	8	7.0	Silicone	Black	9.25	108.00	180	210
1211 0915	9	7.0	High Temp. Sil.	Brown	9.10	62.00	220	250
1533 6910	10	7.0	Silicone	Black	9.25	32.30	180	210
1533 6923	11	7.0	High Temp. Sil.	Black	9.25	67.00	220	250
1533 6950	12	7.0	High Temp. Sil.	Black	9.25	67.00	220	250

Spark Plug Boots — Pre-HEI

TYPE 1



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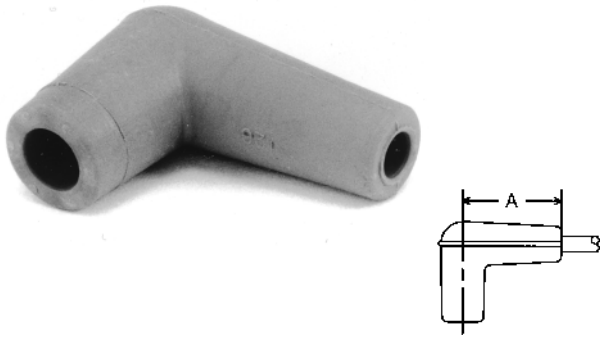

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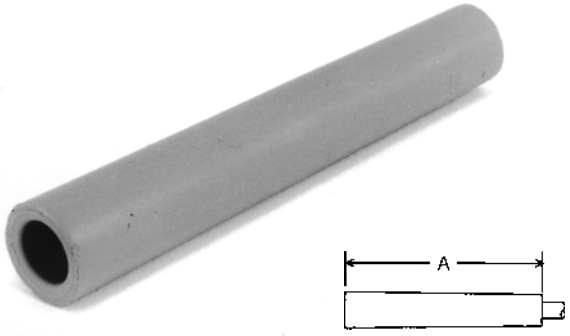


Spark Plug Boots – Pre-HEI

Part Number	Type	Cable Size (mm)	Material	Color	Mating End ID (mm)	Dim. A (mm)	Cont. Op. Temp.(°C)	Peak Op. Temp.(°C)
0890 5588	1	7.0	Silicone	Gray	9.78	66.60	180	210
0298 4274	2	7.0	Silicone	Red	9.40	36.91	180	210
1213 2221	3	7.0	Silicone	Orange	9.65	88.90	180	210

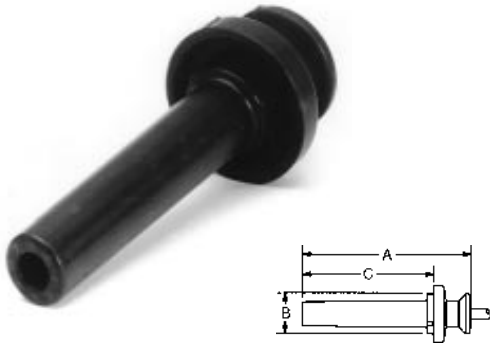
Note: Reference dimensions are in millimeters.

Spark Plug Boots — HEI Deep Well

TYPE 1

TYPE 2

TYPE 3



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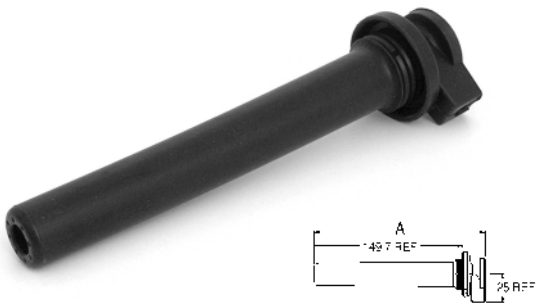

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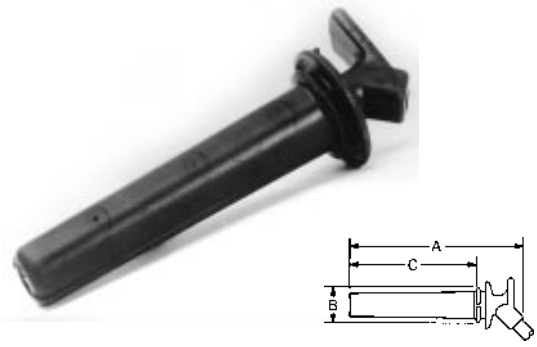


TYPE 6

Spark Plug Boots – HEI Deep Well

Part Number	Type	Cable Size (mm)	Material	Color	Mating End ID (mm)	Dim. A (mm)	Dim. B (mm)	Dim. C (mm)	Cont. Op. Temp.(°C)	Peak Op. Temp.(°C)
1206 5756	1	8.0	Silicone	Black	9.60	126.00	24.5	100.85	180	210
1209 2997	2	7.0	Silicone	Black	9.25	127.50	74.5	99.00	180	210
1213 2231	3	7.0	Silicone	Black	9.25	124.50	31.0	94.50	180	210
1213 2262	3	7.0	Silicone	Black	9.25	124.50	27.0	94.50	180	210
1533 6911	4	7.0	Silicone	Black	9.25	172.65	–	149.70	180	210
1216 3661	5	7.0	Silicone	Black	9.25	134.00	34.0	99.50	180	210
1209 2945	6	7.0	Silicone	Red	9.00	104.00	26.9	56.50	180	210
1213 2268	6	7.0	Silicone	Black	9.00	104.00	26.9	56.50	180	210
1216 3642	6	7.0	Silicone	Black	9.00	100.00	29.0	65.50	180	210

Miscellaneous Deep Well Boot Components

1213 2213

1213 2270
1213 2271

Extenders

Part Number	Description	Cable Size (mm)	Material	Color	Dim. A (mm)	Mating Parts
1213 2213	Extender	7.0	PBT	Black	182.3	1213 2214, 1213 2215, 1213 2216
1213 2270	Extender	7.0	PET	Black	163.2	1213 2251, 1216 3620
1213 2271	Extender	7.0	UPE	Black	136.9	1213 2251, 1213 2275

1213 2214
1213 2275
1216 3620

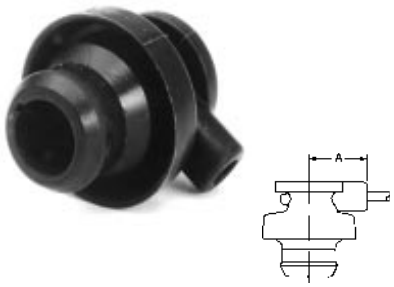
1213 2215

Seals

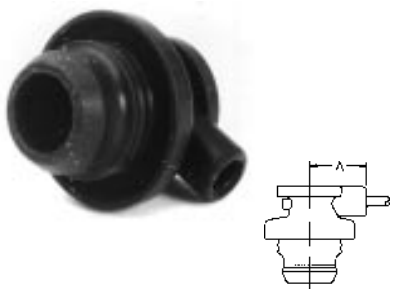
Part Number	Material	Color	Inside Dia. (mm)	Outside Dia. (mm)	Length (mm)	Application
1213 2214	Silicone	Black	9.25	21.0	25.0	Plug
1213 2215	Silicone	Black	–	34.5/36.0	13.5	Well
1213 2275	Hi-Tear Silicone	Gray	9.25	21.0	25.0	Plug
1216 3620	Silicone	Light Gray	9.25	21.0	25.0	Plug

1213 2216

1213 2251



1213 2279



Tops and Caps

Part Number	Cable Size (mm)	Material	Color	Dim. A (mm)	Note
1213 2216	7.0	Silicone	Black	36.0	Dress wire at 97.5°
1213 2251	7.0	Hi-Tear Silicone	Black	25.0	Seals a 28.0 mm ID well Part is vented
1213 2279	7.0	Silicone	Black	25.0	Seals a 28.0 mm ID well Part is vented

Distributor/Coil Nipples – 27 KV Systems for Female Coil Towers

TYPE 1

TYPE 2

TYPE 3

TYPE 4

TYPE 5

TYPE 6

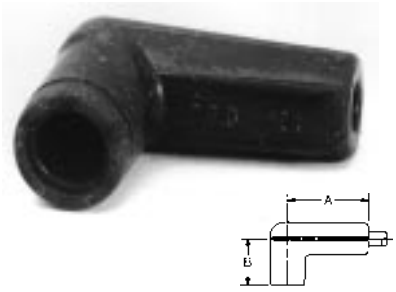
TYPE 7

Distributor/Coil Nipples - 27 KV Systems

Part Number	Type	Cable Size (mm)	Material	Color	Mating End ID (mm)	Dim. A (mm)	Cont. Op. Temp.(°C)	Peak Op. Temp.(°C)
0297 3999	1	7.0	EPDM	Black	15.09	18.75	80	110
1208 4632	1	7.0	EPDM	Black	19.10	20.65	90	120
0891 1753	2	7.0	EPDM	Black	15.09	18.75	80	110
0298 9836	3	7.0	EPDM	Black	14.99	33.40	90	120
0298 9837	3	7.0	EPDM	Black	17.15	37.10	90	120
1200 4921	4	7.0	EPDM	Black	15.40	33.40	80	110
1204 1278	5	7.0	Silicone	Black	14.20	26.00	180	210
1213 2250	5	7.0	Hi-Tear Sil.	Black	14.70	26.01	180	210
1209 2946	6	7.0	Silicone	Black	17.00	43.00	180	210
1213 2248	7	7.0	EPDM	Black	17.05	37.10	180	210

Distributor/Coil Nipples – 35 KV Systems for Male Coil Towers

TYPE 1



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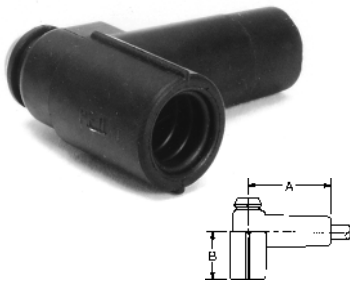
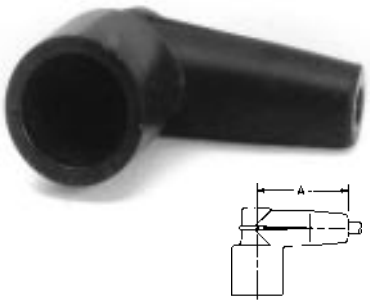


TYPE 3

TYPE 4

TYPE 5

TYPE 6



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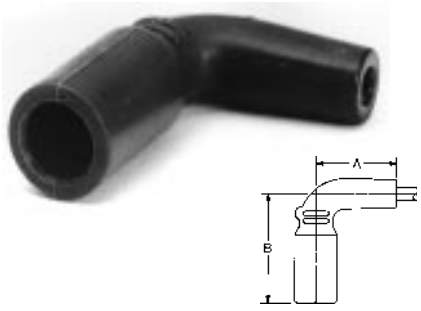

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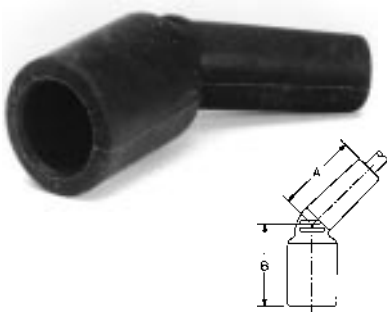
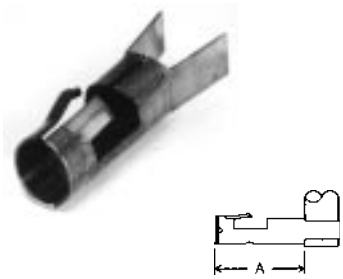


Distributor/Coil Nipples - 35 KV Systems

Part Number	Type	Cable Size (mm)	Material	Color	Mating End ID (mm)	Dim. A (mm)	Dim. B (mm)	Cont. Op. Temp.(°C)	Peak Op. Temp.(°C)
1201 5572	1	8.0	EPDM	Black	8.64	36.96	26.04	90	120
1203 4134	1	8.0	Silicone	Black	8.64	36.96	26.00	180	210
1205 9511	1	8.0	Silicone	Black	8.20	36.90	21.20	180	210
1206 5765	1	7.0	Silicone	Black	8.20	37.20	21.35	180	210
1208 4633	1	7.0	Silicone	Black	9.00	37.20	26.00	180	210
1201 5571	2	8.0	EPDM	Black	8.89	38.10	22.10	90	120
1206 5743	3	7.0	Silicone	Black	7.80	67.40	–	180	210
1213 2253	4	7.0	Silicone	Black	12.35	61.50	–	90	120
1213 2218	5	7.0	Silicone	Black	17.50	59.00	–	180	210
1213 2200	6	7.0	Silicone	Black	17.50	41.40	–	180	210
1213 2219	7	7.0	Silicone	Black	12.35	36.50	49.80	90	120
1213 2286	7	7.0	Silicone	Black	14.90	36.50	49.80	90	120
1213 2280	8	7.0	Silicone	Black	12.35	36.50	37.50	180	210
1216 3658	8	7.0	Silicone	Black	14.90	38.50	37.50	90	120

Ignition Terminals – Male

TYPE 1



TYPE 2

TYPE 3

TYPE 4

Ignition Terminals – Male

Part Number	Type	Cable Size (mm)	Material	Application	Dim. A (mm)	Suggested Termination	Suggested Cable
1201 0248	1	7.0	Brass	Distributor or Coil	26.57	Strip & Fold	Silicone
1201 5217	2	7.0	Brass	Distributor or Coil	17.15	Strip & Fold	CPE
1213 2249	2	7.0	Stainless Steel	Distributor or Coil	21.00	Strip & Fold	Hi-Tear Silicone
1209 2943	3	7.0	Stainless Steel	Distributor or Coil	25.70	Strip & Fold	Silicone
1213 2247	4	7.0	Stainless Steel	Distributor or Coil	22.15	Strip & Fold	Silicone

Ignition Terminals – Female

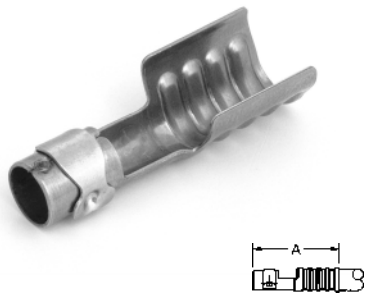
TYPE 1

TYPE 2

TYPE 3

TYPE 4

TYPE 5



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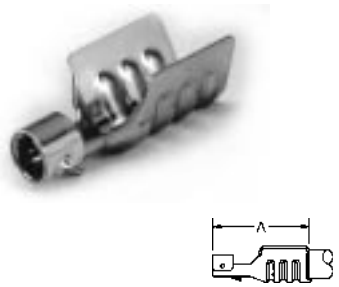


TYPE 7

Ignition Terminals – Female

Part Number	Type	Cable Size (mm)	Material	Application	Dim. A (mm)	Suggested Termination	Suggested Cable
1213 2295	1	7.0 - 8.0	Stainless Steel	Spark Plug	13.10	Strip & Fold	Silicone
1533 6971	1	7.0 - 8.0	Stainless Steel	Spark Plug	13.10	Strip & Fold	Silicone
1209 2974	2	7.0 - 8.0	Stainless Steel	Spark Plug	62.87	Strip & Fold	Silicone
1216 3664	2	7.0 - 8.0	Stainless Steel	Spark Plug	62.87	Strip & Fold	Silicone
1209 2942	3	7.0	Stainless Steel	Spark Plug	51.02	Strip & Fold	Silicone
1216 3623	4	7.0 - 8.0	Stainless Steel	Coil/Plug	23.88	Strip & Fold	Silicone
1216 3649	4	7.0 - 8.0	Stainless Steel	Spark Plug	23.88	Strip & Fold	Silicone
1216 3697	4	7.0 - 8.0	Stainless Steel	Coil/Plug	23.50	Strip & Fold	Silicone
1213 2237	5	7.0 - 8.0	Stainless Steel	Dist./Spark Plug	34.25	Strip & Fold	Silicone
1216 3665	5	7.0 - 8.0	Stainless Steel	Dist./Spark Plug	34.25	Strip & Fold	Silicone
1533 6905	5	7.0 - 8.0	Stainless Steel	Dist./Spark Plug	34.25	Strip & Fold	Silicone
1209 2977	6	7.0	Stainless Steel	Dist./Coil	24.75	Strip & Fold	Silicone
1213 2201	7	7.0	Phosphor Bronze	Dist./Coil	23.40	Strip & Fold	Silicone

Clips: 1- and 2-Way

1205 2039
1206 5740

1213 2228

Clips 1-Way

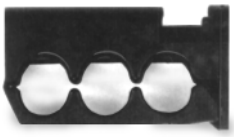
Part Number	Cable Size (mm)	Material	Color	Cover
1205 2039	8.0	PA6	Black	1208 4629
1206 5740	7.0	PA6	Black	1208 4629
1213 2228	7.0	PA66	Black	Attached

	1	2	3
A	**0297 7417** 	**0891 7143** 	**1203 3809** 
B	**1203 4424** 	**1206 5759**  cover	**1213 2229** 

Clips 2-Way

Part Number	Cable Size (mm)	Material	Color	Cover	Photo Location
0297 7417	7.0	PA66	Black	–	A-1
0891 7143	8.0	PA66	Med. Gray	–	A-2
1203 3809	8.0	PA66	Black	–	A-3
1203 4424	7.0	PA66 High IM	Black	Attached	B-1
1206 5759	7.0	PA6	Black	1204 5668	B-2
1213 2229	7.0	PA66	Black	Attached	B-3

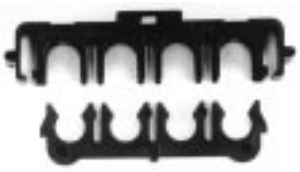
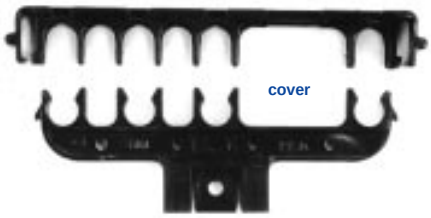
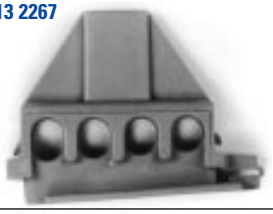
Clips: 3-Way

	1	2	3	4
	3 - Way			
A	0135 2299 	0890 5417 0891 7255 	0891 7538 1204 7524 	1203 4564 1208 4623 
B	1205 2037 cover 	1205 2041 cover 	1205 2871 	1205 9530 1209 2941 
C	1206 5757 	1213 2208 	1216 3607 1216 3608 	

Clips 3-Way

Part Number	Cable Size (mm)	Material	Color	Cover	Photo Location
0135 2299	7.0	PP	Black	–	A-1
0890 5417	7.0	PP	Black	Attached	A-2
0891 7255	8.0	PP	Black	Attached	A-2
0891 7538	8.0	PA66 HS IM	Black	–	A-3
1203 4564	7.0	PA6	Black	Attached	A-4
1204 7524	7.0	PA66 HS IM	Black	–	A-3
1205 2037	8.0	PA6	Black	12084650	B-1
1205 2041	8.0	PA6	Black	12084650	B-2
1205 2871	7.0	PA66 HS IM	Black	–	B-3
1205 9530	8.0	PA66 High IM	Black	Attached	B-4
1206 5757	8.0	PA66 HS IM	Black	–	C-1
1208 4623	8.0	PA66 HS IM	Black	Attached	A-4
1209 2941	7.0	PA66 HIGH IM	Black	Attached	B-4
1213 2208	7.0	PA66 IM	Black	Attached	C-2
1216 3607	7.0	PA66 IM	Black	Attached	C-3
1216 3608	8.0	PA66 IM	Black	Attached	C-3

Clips: 4- and 5-Way

	1	2	3	4
4 - Way				
A	0296 5736 	0629 4103 0891 7256 	0891 1429 1202 0208 cover 	1200 4899 1203 4561 cover 
B	1202 0209 		1202 0704 1204 1376 	1202 0840 
C	1202 0947 	1203 4425 	1205 9510 cover 	1206 5758 1206 5767 
D	1213 2223 	1213 2267 	1213 2272 	

Clips 4-Way

Part Number	Cable Size (mm)	Material	Color	Cover	Photo Location
0296 5736	7.0	PA66	Black	-	A-1
0629 4103	7.0	PP	Black	Attached	A-2
0891 1429	8.0	PA66 HSIM	Black	1206 5761	A-3
0891 7256	8.0	PP	Black	Attached	A-2
1200 4899	8.0	PA66 HSIM	Black	1206 5761	A-4
1202 0208	8.0	PA66 HSIM	Black	1206 5761	A-3
1202 0209	8.0	PA66 IM	Black	0891 7439	B-1
1202 0704	8.0	PA66 High IM	Black	Attached	B-3
1202 0840	8.0	PA6	Black	Attached	B-4
1202 0947	7.0	PA6	Black	Attached	C-1
1203 4425	7.0	PA66 High IM	Black	Attached	C-2
1203 4561	7.0	PA66 HSIM	Black	1206 5761	A-4
1204 1376	7.0	PA6	Black	Attached	B-3
1205 9510	7.0	PEI	Black	1205 9514	C-3
1206 5758	8.0	PA66 HSIM	Black	-	C-4
1206 5767	7.0	PA66 HSIM	Black	-	C-4
1213 2223	7.0	PA66 HSIM	Black	Attached	D-1
1213 2267	7.0	PP	Gray	Attached	D-2
1213 2272	7.0	PA66	Black	Attached	D-3

5 - Way

1204 1472

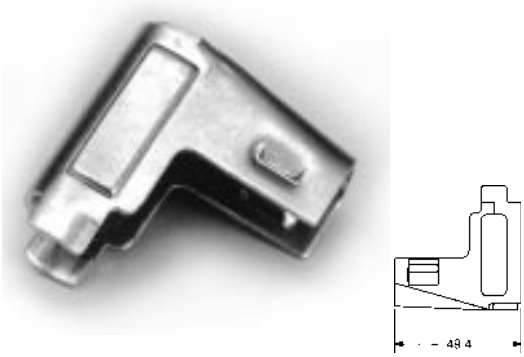
Clips 5-Way

Part Number	Cable Size (mm)	Material	Color	Cover
1204 1472	8.0	PA6	Med. Gray	Attached

Heat Shields

1213 2259

1216 3646



1533 6959

Heat Shields

Part Number	Description	Material	Plug Type	Boot	Cont. Op. Temp.(°C)
1213 2259	Heat Shield/ Barrier Asm.	Aluminum, Polyimide Film Stainless Steel Spring	Small/Large	1213 2264	260
1216 3646	Heat Shield	Aluminum	Small	1206 5779	260
1533 6959	Heat Shield/ Barrier Asm.	Aluminum, Polyimide Film Stainless Steel Spring	Small/Large	1205 2869	260

Note: Reference dimensions are in millimeters.

Miscellaneous Assemblies

1213 2224

Integrated Direct Ignition Assembly

Asm. Number	Components	Material	Color
1213 2224	Boot	Silicone	Black
	Retainer	PA66 HS IM	Black
	Spring Terminal	302 SS	–

1213 2220
1213 2287

1213 2254

1213 2282
1216 3659

Nipple Assemblies

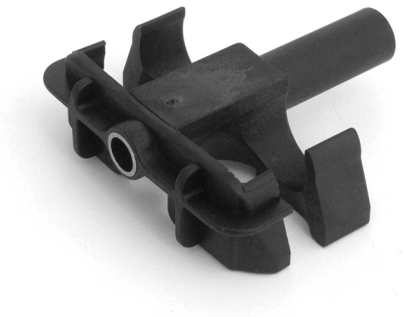
Asm. Number	Insert	Nipple
1213 2220	1213 2241	1213 2219
1213 2254	1213 2241	1213 2253
1213 2282	1213 2241	1213 2280
1213 2287	1213 2241	1213 2286
1216 3659	1213 2241	1216 3658

1213 2241

Insert

Position Assurance Devices

1216 3694



NPA – Nipple Position Assurance

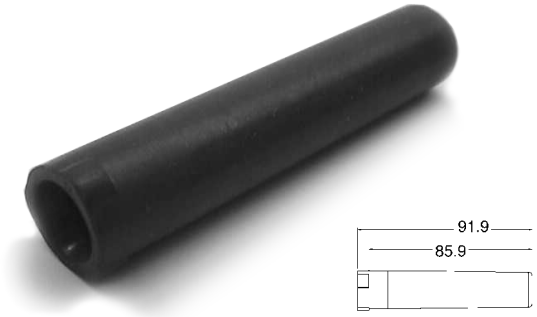
2100 8514

BPA – Boot Position Assurance

Coil-At-Plug Assemblies

1216 3650

1216 5490



Coil-At-Plug Assemblies

Asm. Number	Boot Number	Spring Number
1216 3650	1216 3669	1216 3671
1216 5490	1216 3647	1216 3606

Note: Reference dimensions are in millimeters.

Part Number Index

DELPHI

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